

To hematology

Differential White Blood Cell Count

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1. The accuracy of the differential count depends on a well prepared blood smear. If too thick, the cells are difficult to differentiate; if too thin the distribution may not be even.
2. After staining, scan the smear at low magnification (10X) to find the best area to examine at higher magnification and check the feathered edge.
3. Select a thin area of the smear where the cells are evenly distributed. Examine at high dry magnification (40X) or oil (100X); oil may be necessary to adequately see all the cell features.
4. Begin the differential count by moving back and forth across the smear in a pattern that avoids covering the same territory. Identify each leukocyte that is encountered until 100 cells have been counted and sorted by type. Use the cell counter (below) to place each cell in the proper category.
5. The % of each cell type is the relative differential count.
6. The % of each WBC type multiplied by the WBC count gives the absolute number of that WBC type/ μ l of blood. The cumulative total of all the absolute cell counts should equal the total WBC.

One pattern for differential counting



Neubauer ruling

How to use the Cell Counter



Cell counter

1. Make sure all the counter units are set at 000. To do this rotate end knobs one time towards the operator. Mark the cell types to be counted below each window.
2. Press down only 1 key at a time. Press each key all the way down then release completely. This is critical because each single key stroke records the count for that cell type and also for the total count.
3. The totalizer bell rings when you have counted 100 cells. The totalizer is the last counter on the right with no key beneath the window. On the ring the number shown on each individual counter directly corresponds to the % of that cell type counted.
4. For more precise counts continue until the totalizer bell rings again, at a total of 200 strokes. Divide the total shown on each individual cell counter by two to determine the % of each cell counted. Counts can be continued to a total of 300 or 40-0 when more precise counts are needed

Care of the Cell Counter

1. After each use re-set the counters to 000. This assures the longest counter life, as it reduces tension on springs and other moving parts.
2. Cover the cell counter when not in use to protect form dust.
3. Never lubricate the counter.